

Putnam (J. J.)

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AFTER CONCUSSION ACCIDENTS.

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THE MEDICO-LEGAL SIGNIFICANCE OF HEMI- ANÆSTHESIA AFTER CONCUSSION ACCI- DENTS.

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WITHIN the past two years a number of cases have come to the writer's notice in which concussion accidents, such as falls, railway collisions, and the like, have given rise, even in male subjects, to impairment of the sensibility, general and special, of one side of the body (sometimes to a less degree of the other also), and it has twice happened that these symptoms have furnished valuable evidence against the probability of malingering, where claims had been made for damages.

The medical expert is rarely called on to the witness-stand under more annoying circumstances than when required to testify as to the real condition of a patient who claims to be suffering from the effects of a railway collision or similar accident, yet who presents no sign of disease that might not be ascribed to simulation. Under these circumstances, anything of the nature of objective signs of disease is heartily welcome, and the symptoms to which I have referred, though not strictly objective, yet possess almost the same degree of significance.

There is nothing in a hemianæsthesia, especially if incomplete, to appeal to the imagination or sympathy of a jury, and in its typical forms, at least, its simulation would imply an amount of knowledge and skill that none but the best professional cheats would be likely to possess.



Three of the five patients whose cases form the basis of this paper were not making any claim for damages, and had no motive whatever for deceit. The discovery of the hemianæsthesia was apparently an entire surprise to all.

Within the past year, a careful examination has been made by Thomsen and Oppenheim¹ of the sensibility both of the skin and of the eye and ear, after epileptic attacks and a variety of other nervous outbreaks, as well as in conditions of permanent nervous disorder.

In certain groups of these affections, impairment of the sensitive functions was regularly found, especially a concentric narrowing of the field of vision. The impairment was generally bilateral, but often most marked upon one side.

Dr. G. L. Walton reported, in the *Boston Med. and Surg. Journ.* for Oct. 11th, 1883, a very interesting though complicated case of functional (in some respects also organic) impairment of sensibility of all kinds after concussion from the explosion of a shell.

Similar conditions have, of course, frequently been noticed with the other sex as a result of shocks of various kinds, and it is also well known that the general hysterical state, as well as a variety of marked hysterical symptoms, may make their appearance under like circumstances in men. A number of striking cases of this class are reported by Page ("Injuries of the Spine," etc.), who has also done good service in supporting the opinion that the condition known as railway spine and the like is, in the great majority of cases, a functional neurotic disorder, and not a result of organic spinal disease.

The object of the present paper is to call attention to the importance of seeking for these symptoms of complete

¹ Arch. für Psychiatrie u. Nervenkr., 1884, xv., 2. Centralbl. für die med. Wissensch., 1884.

or partial hemianaesthesia (in men) after all other signs of disease have passed away.

As Thomsen and Oppenheim point out with regard to their own cases, it is evident that the discovery of anaesthesia, even of the so-called "hysterical" type, does not necessarily justify the diagnosis of hysteria, and it is indeed high time that this much abused and misleading term, with its invidious implications, should be superseded. This is especially true as regards court cases, for the admission of the diagnosis of hysteria is liable to throw a weapon for ridicule and disparagement into a skilful lawyer's hand.

The first two of the cases here referred to were reported in the *Boston Med. and Surg. Journal* (vol. cix., p. 217), and one of them was described at greater length by Dr. G. L. Walton in the *Arch. of Med.*, vol. x., 1883. The others are here reported for the first time.

It seems to be by no means necessary that the injury causing these persistent, so-called hysterical symptoms in men should be given. A sharp sudden jolt and jar, with its accompanying emotional excitement, is enough.

Neither is a very neurotic temperament a necessary condition. In only one of the cases was this present to any marked degree.

The hemianaesthesia does not always involve all the different kinds of sensibility, or certainly not all to the same degree.

As in the case of true hysteria, there may be a relative analgesia, only discovered by deep pricking, etc., while the contact sense remains apparently unimpaired, and there is, at least, no marked disorder of sight and hearing.¹ These partial anaesthesia, however, such as incomplete analgesia, a moderate retraction of the field of vision, a

¹ According to Thomsen and Oppenheim, the concentric retraction of the visual field is the most constant symptom.

loss or diminution of hearing for bone-conduction only,¹ might justly be taken to indicate a truthful plaintiff better than a claim of complete blindness, etc.

A loss of sensibility over parts of the body not the seat of paralysis of motion or of injury, and yet limited by the median line, would also probably be less likely to be simulated than a loss confined to injured or paralyzed parts.

A greater degree of anæsthesia over such parts seems, however, to be the rule, even in certainly genuine cases.

There is one indication of truthfulness on the part of a claimant which, although only occasionally present, is of especial value. It sometimes happens, namely, as in the interesting case to be recorded later, that the area of absolute or relative analgesia is bounded by a definite line, other than the median line of the body, being confined, for example, to one limb, or part of a limb.

If now it is found that this boundary line remains accurately the same during a prolonged examination, or on repeated examination, it may be assumed with confidence that the patient is not shamming, for it is impossible for a healthy person to observe a line of this sort with anything like accuracy. Such, at least, is the conclusion reached by Dr. S. G. Webber and myself, as the result of some experiments undertaken at his suggestion upon several individuals.

The same test would doubtless be applicable in regard to the visual field. It is also probable that even slight atrophy and diminished electrical reaction in limbs claimed to be paralyzed is presumptive evidence against malinger ing, inasmuch as it would be difficult for person wilfully to keep a part so still, even when not under observation, as to bring about this result.

Again, a person feigning hemianæsthesia could scarcely

¹ The importance of this sign has been pointed out by Dr. G. L. Walton, Brain, No. xx., 1883.

simulate the disorders of the reflexes met with in typical cases, especially the impairment of the reflexes excited by irritation of the mucous membranes.

Of course, it is not to be understood that these signs of functional impairment of sensation, even if accompanied by impairment of motion, etc., are claimed to show more than that the patient is not an absolute cheat. He may still be guilty of exaggeration, and even though he be proved pretty conclusively to have functional nervous disease, the prognosis may, of course, be good.

There is still great need, for the sake of a more equitable adjustment of legal claims, that the elements for making prognosis in these cases should be more thoroughly studied.

The large number of observations made by Page show that the vast majority of patients recover in all essential respects, and it is probable that even when typical hysterical symptoms are present, the prognosis is better than in idiopathic hysteria. It is also beyond a question that, after the excitement attending trial in court has ceased, the gain is almost always more rapid than before, even when there is no suspicion of simulation.

Still, what neurologist is there who cannot point to cases where no claim for damages was in question, and yet where life-long and wretched invalidism has followed some concussion injury?

It is the writer's impression, from his own limited experience, that these unfavorable cases are not those which show marked "hysterical" symptoms (disproportionate unilateral, or otherwise localized impairment of functions), but, rather, cases of general diffused debility, or neurasthenia. Possibly the typical "hysterical" cases have more unstable nervous systems than the others, and the symptoms in them are readier to come and readier to go.

The question often arises in court cases: Does the fact

that the symptoms complained of have endured a long time (previous to the trial) warrant the conclusion that they will pass away but slowly, if at all?

It is probable that this question may be answered in the negative, so far as the localized functional disorders are concerned.

Such symptoms may last indefinitely, so long as the influences are unfavorable to a cure (such as the prospect of a trial), and yet in the end pass rapidly away. Perhaps this is less often true, however, of cases of the neurasthenic type.

The question often arises in connection with jury-trials, What attitude shall be taken towards the term "hysteric"?

Senseless as the designation is, it has to the popular and to the scientific mind two different, yet both pretty definite meanings.

To the former it is almost a term of reproach, suggests exaggeration, if not half-conscious simulation.

Its pains and palsies are supposed to be only "mimic" ailments which an effort of resolution could dispel. The expert knows, however, that this view is only a coarse half-truth, that in fact hysteria is, in some of its forms, a distressing, serious, and obstinate malady, and that its "simulations" of other diseases are in reality only similarities.

The former or belittling view of hysteria is of course the one usually taken by the counsel for the defence. But if the patient really have hysteria, it is certainly better that the fact should be recognized by both sides, an opportunity claimed for explaining the nature of the disease, than that the prosecution, shunning all mention of the true diagnosis, should darkly hint at possible organic lesions, leaving it to the defence to bring forward the obnoxious word, using it as a synonym for exaggeration, womanishness, and deception.

The opinion should not be allowed to prevail that hysteria is only a "mimetic" disease.

For in the minds of those making this statement in court, the designation carries with it a flavor of unreality and insignificance.

The paralyses of hysteria are no more mimetic of the organic paralyses than the reverse is true, or than the cough of bronchitis is mimetic of the cough of phthisis. It is a case, as has been said, not of simulation, but of (outward) similarity.

CASE I.—The patient, who was a man of between fifty and sixty, of previously good health in all essential respects, and formerly an officer in the army, was travelling at the time of the accident on a railway in Massachusetts.

When near a certain station, the engine, with one or more cars, in one of which the patient sat, was, as usual, uncoupled from the rest, and allowed to run ahead, in order that the rear half of the train might be switched on to another track.

Unfortunately, the brakeman failed to disconnect the bell rope, and by the time the two parts of the train had separated to the extent of ten or twelve feet the rope was stretched taut, giving the proper signal for stopping the engine, which the engineer at once obeyed.

The rear part of the train continued its course, and struck the fore part with sufficient momentum to damage the platforms and break some of the glass in the cars.

The patient, who was sitting with his face to the engine, was jerked forwards, then back, and finally slid down between the seats, striking and scraping his back with some force against the edge of his own seat, the cushion of which had been displaced.

He was helped out by a bystander, who said to him, "Friend, are you hurt?" to which he replied that his back hurt him very much.

He was, however, able to complete his journey, under some distress, performed some business, and returned in the evening to his home, near Boston, but in the course of the afternoon was nauseated and vomited.¹

For nearly three weeks he kept about his work, but from the day of the accident he was a changed man.

From being cheerful and active, he became listless, gloomy, dispirited, and emotional, bursting frequently into tears, and at night he was restless and delirious.

The secretion of urine was greatly diminished, and it was passed often but once a day. The hands and feet were perpetually cold, and his physician, Dr. Blood, of Charlestown, through whose kindness I was able to examine the patient later, found his pulse habitually about 60, and his temperature ranging from 97° F. to 98° F.

Before the end of three weeks, his distress had increased so much that he was obliged to take to his bed, and when I saw him, a few days later, he was the very picture of prostration and misery—pale, nervous, excited, with large and almost irresponsive pupils, and drooping lids, the skin cool, and the heart's action feeble.

He whispered to me that he had not had an erection since his illness began, and there is good reason to think that this condition has remained unchanged up to the present time, an interval of a year and a half.

The sensibility of the skin was found notably diminished at that time over all four extremities, and in fact everywhere that it was tested.

Pain and distressing sensations in the back were constantly present.

The patient was seen soon afterwards by Drs. S. G. Webber and C. B. Porter, and by all of us, subsequently, a number of times.

¹ Other persons in the car were somewhat injured, but none, I believe, severely.

It is unnecessary to describe in detail the further progress of the case, suffice it to say that the patient became at first completely paraplegic, then, after some months, hemiparaplegic, the motions of the right leg remaining absolutely abolished, even those at the hip-joint.

It was also soon discovered that the loss of sensation had shown the same tendency with the loss of motion, to concentrate itself upon one-half of the body, and the case assumed in this respect the appearance of a typical hemiæsthesia.

The special senses were all involved in this impairment, and the hearing was diminished for bone-conduction as well as for air-conduction (vide above).

All these symptoms, even including some degree of impairment of emotional self-control, remained nearly unchanged up to the time of the trial, *i. e.*, through an interval of nearly a year and a half.

CASE II. is, in outline, as follows: The patient, who was highly neurotic by temperament and by inheritance, was thrown forward in consequence of a moderate shock of the railway car in which he was riding, so as to strike the right side of the abdomen upon the seat in front. No symptoms showed themselves for two weeks, when the legs became suddenly paretic. After a few weeks more, the left leg had improved very much, while the right became suddenly entirely helpless, even at the hip-joint. Patient came to the Massachusetts General Hospital, Out-Patient Department, several months later, complaining, besides the paralysis, of abnormal sensations throughout the entire right side.

There was diminished sensibility to deep pricking over the right leg and thigh, but not over the rest of the right side.

The field of vision of the right eye was materially contracted, and the hearing of the right ear diminished to

both air and bone conduction. The deep and superficial reflexes seemed less on the right side than the left. The mental condition and general nutrition appeared to be normal.

CASE III., an Irish laborer, was crushed seven months before applying at the Massachusetts General Hospital, between a cart and a post, getting several ribs broken, and receiving various bruises. Is easily fatigued by slight exertion, and annoyed by trembling of hands. The examination made was not thorough, partly because of want of intelligence on the patient's part, but it is evident that sensibility to deep pricking is diminished over the entire left half of the body.

